

# USER'S MANUAL

38cm (15") Color Monitor  
56E/56V



**SAMTRON**

**Information in this document is subject to change without notice.  
© 2001 Samsung Electronics Co., Ltd. All rights reserved.**

Reproduction in any manner whatsoever without the written permission of Samsung Electronics Co., Ltd. is strictly forbidden.

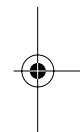
Samsung Electronics Co., Ltd. shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

The *SAMTRON* logo is registered trademark of Samsung Electronics Co., Ltd.; *Microsoft*, *Windows*<sup>®</sup> and *Windows*<sup>®</sup> *NT* are registered trademarks of Microsoft Corporation; *VESA*, *DPMS* and *DDC* are registered trademarks of Video Electronics Standard Association; the *ENERGY STAR* name and logo are registered trademarks of the U.S. Environmental Protection Agency (EPA). As an ENERGY STAR Partner, Samsung Electronics Co., Ltd. has determined that this product meets the ENERGY STAR guidelines for energy efficiency. All other product names mentioned herein may be the trademarks or registered trademarks of their respective owners.



## Table of Contents

Safety Instructions .....	2
Your New Monitor .....	3
Connecting Your Monitor .....	3
Front Panel .....	4
Direct Access Buttons .....	4
Operation .....	5
On Screen Display(OSD) .....	5
Monitor function control .....	6
Brightness .....	6
Contrast .....	6
Horizontal Position .....	6
Vertical Position .....	6
Horizontal Size .....	6
Vertical Size .....	6
Pincushion .....	7
Geometry .....	7
Trapezoid .....	7
Parallelogram .....	7
Pinbalance .....	7
V-Linearity .....	7
Language .....	8
Advanced .....	8
V- Moiré .....	8
Video Input Level .....	8
Color Temperature .....	8
Zoom .....	9
Degauss .....	9
Recall .....	9
Display Timing .....	9
OSD Lock/Unlock .....	9
Troubleshooting .....	10
Power Saver .....	11
Display Modes .....	11
Specifications .....	12
Index .....	13
Regulatory Information .....	inside back cover



## Safety Instructions

- 1 Before connecting the AC power cord to an outlet, make sure the voltage designation on your monitor corresponds to the local electrical supply.
- 2 Never insert anything metallic into the monitor openings. Doing so may create the danger of electric shock.
- 3 To avoid electric shock, never touch the inside of the monitor. Only a qualified technician should open the monitor's case.
- 4 Never use your monitor if the power cord has been damaged. Do not allow anything to rest on the power cord, and keep the cord away from areas where people can trip over it.
- 5 Be sure to hold the plug, not the cord, when disconnecting the monitor from an electric socket.
- 6 Openings in the monitor cabinet are provided for ventilation. To prevent overheating, these openings should not be blocked or covered. Also, avoid using the monitor on a bed, sofa, rug, or other soft surface. Doing so may block the ventilation openings in the bottom of the cabinet. If you put the monitor in a bookcase or some other enclosed space, be sure to provide adequate ventilation.
- 7 Put your monitor in a location with low humidity and a minimum of dust.
- 8 Do not expose the monitor to rain or use it near water (in kitchens, near swimming pools, etc.). If the monitor accidentally gets wet, unplug it and contact an authorized dealer immediately. You can clean the monitor with a damp cloth when necessary, but be sure to unplug the monitor first.
- 9 Place the monitor on a solid surface and treat it carefully. The screen is made of glass and can be damaged if dropped, hit or scratched.
- 10 Locate your monitor near an easily accessible AC outlet.
- 11 If your monitor does not operate normally – in particular, if there are any unusual sounds or smells coming from it – unplug it immediately and contact an authorized dealer or service center.
- 12 High temperatures can cause problems. Don't use your monitor in direct sunlight, and keep it away from heaters, stoves, fireplaces, and other sources of heat.
- 13 Unplug the monitor when it is going to be left unused for an extended period of time.
- 14 Unplug your monitor from the AC outlet before any service.



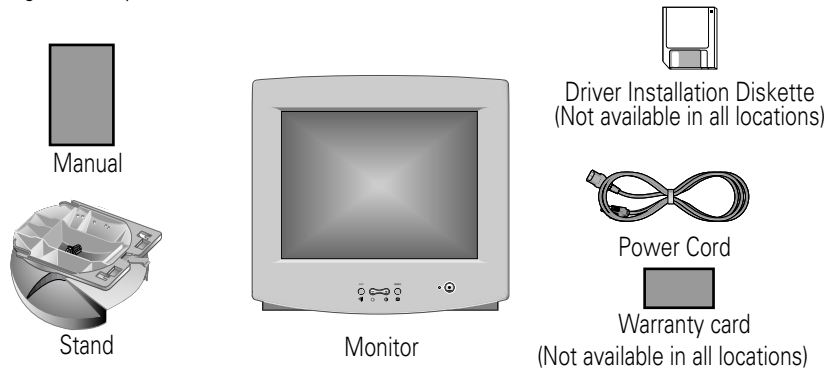
**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN



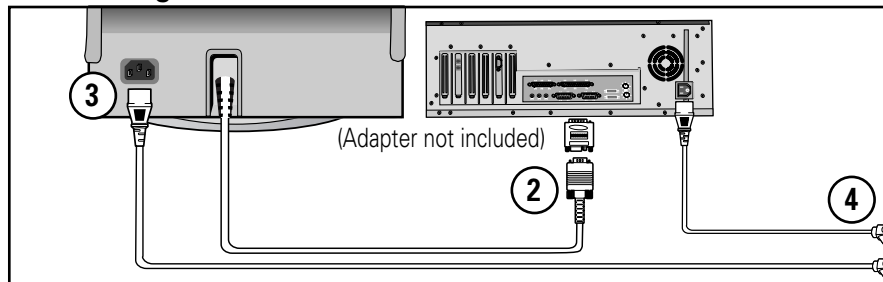
**CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,  
DO NOT REMOVE COVER (OR BACK).  
NO USER-SERVICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

## Your New Monitor

Please make sure the following items are included with your monitor. If any items are missing, contact your dealer.



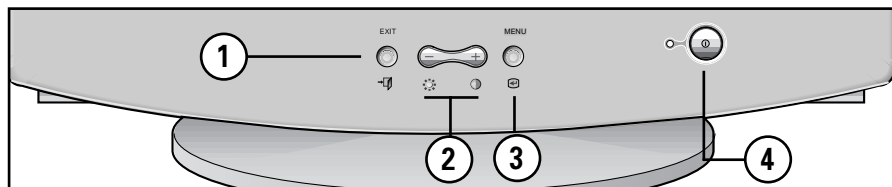
### Connecting Your Monitor



- 1** Turn off your computer and unplug the power cord.
- 2** **Signal cable**  
Connect the end of the signal cable to your computer's video port (Video board, video card, or graphics card). If you are using a Macintosh computer, connect the cable to a Macintosh adapter, and set the pins on your adapter (Adapter not included). A PC-compatible computer does not need an adapter.
- 3** **Power port**  
Connect the power cord for your monitor to the power port on the back of the monitor.
- 4** **Power cords**  
Plug the power cord for the monitor and the power cord for your computer into a nearby outlet.
- 5** Turn on your computer and monitor. If your monitor displays an image, installation is complete.
- 6** **Install monitor driver**
  - Insert the provided diskette into the A drive.
  - Double click the "install.exe" file.

# Your New Monitor

## Front Panel



### 1 EXIT (→) button

Closes the On Screen Display. It is also used to return to the previous menu when using the on-screen menu system.

### 2 The (←) / (→) (☼ / ●) buttons

These buttons allow you to select and adjust items using the on-screen menu. When adjusting an item using the on-screen menu, the (←) button lowers the value of the selected function. The (→) button raises the value of the selected function. These buttons are also direct access buttons for the Contrast and Brightness

feature controls. (See the section below on Direct Access Buttons.)

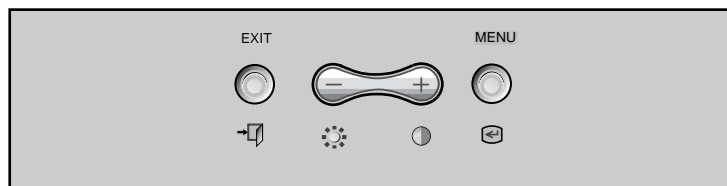
### 3 MENU (⇐) button

Opens the on-screen menu. It is also used to select a highlighted function, open a sub-menu, or move between menus when using the on-screen menu system.

### 4 Power button ⏻

The power button turns the monitor on and off. The power indicator light glows green during normal operation, see page 11.

## Direct Access Buttons



Most of the adjustments you make to your monitor will be accessed through the on-screen menu described in the next section. The Contrast and Brightness features can also be accessed directly from the front of your monitor.

1 With the menu off, press the ☼ or ● button on the front of your monitor. The ☼ button accesses the Brightness feature. The ● button accesses the Contrast feature.














2 Push the (←) button to increase or the (→) button to decrease the value of the selection.

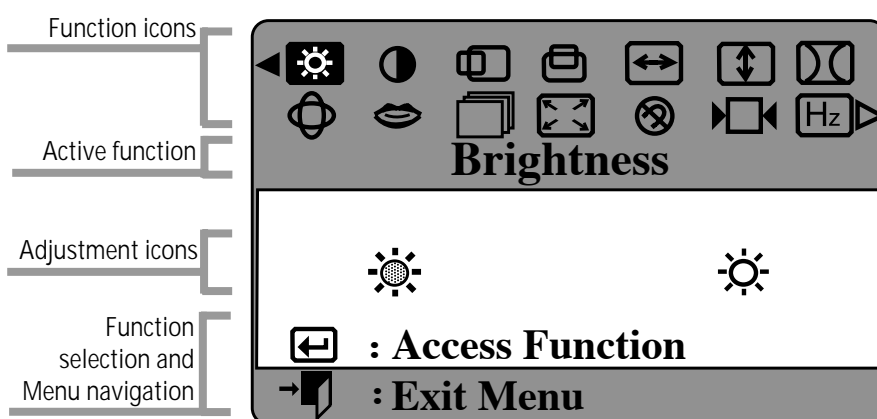
3 Press the EXIT button → twice to exit the on-screen menu.

# Operation

## On Screen Display(OSD)

Your monitor has an OSD, accessed by the buttons on the front of your monitor, that allows you to adjust characteristics of the screen image. Display changes are indicated by on-screen adjustment icons. Some functions have sub-menus.

- 1 Push the menu button  to display the main menu. Function icons are arranged across the top of the OSD.
- 2 Push the  or  button to move through the icons. The name of the function will appear below the rows of function icons.
- 3 To select a function or open a sub-menu, push the  button. The screen will display the options for adjustment. If there is a sub-menu, use the  or  button to highlight the feature you want to adjust, then push the  button to select it.
- 4 Use the  and  buttons to make adjustments.  increases values and  decreases values. On-screen calibration numbers show the effect of your adjustment. If you are in a sub-menu, use the EXIT button  to return to the previous menu.
- 5 Push the EXIT button  to exit and save your changes.





## Operation

### Icon Monitor Function Control



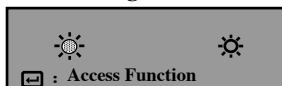
#### Brightness

Background brightness of screen.

-- Decreases brightness

+ Increases brightness

#### Brightness



#### Contrast

Contrast of screen image.

-- Decreases contrast

+ Increases contrast

#### Contrast



#### Horizontal Position

Horizontal screen position.

-- Moves screen left

+ Moves screen right

#### H-Position



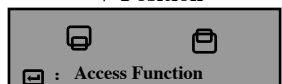
#### Vertical Position

Vertical screen position.

-- Moves screen down

+ Moves screen up

#### V-Position



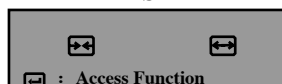
#### Horizontal Size

Horizontal screen size.

-- Decreases size

+ Increases size

#### H-Size



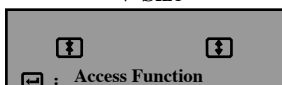
#### Vertical Size

Vertical screen size.

-- Decreases size

+ Increases size

#### V-Size







## Operation

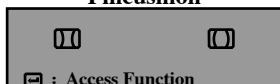
### Icon Monitor Function Control



#### Pincushion

- Straightens screen vertical edges.
- Curves image inward
- + Curves image outward

#### Pincushion



#### Geometry



##### Trapezoid

- Width of top and bottom of screen.
- Widens bottom of screen
- + Widens top of screen



##### Parallelogram

- Skews screen image left
- + Skews screen image right



##### Pinbalance

- Curves vertical lines to left
- + Curves vertical lines to right

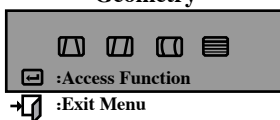


##### V-Linearity

- Compresses image at top of screen
- + Compresses image at bottom of screen

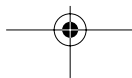
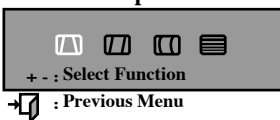
1.

#### Geometry



2.

#### Trapezoid





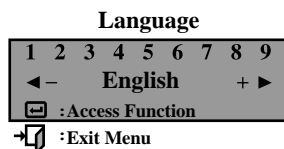
## Operation

### Icon Monitor Function Control



#### Language

— and + scroll through on-screen language options.  
(English/ Korean/ Deutsch/ Français/ Español/ Italiano / Português/ Svenska/ Russian)  
The 3 Languages, Korean, Svenska, and Russian are applied only to the product for Europe.



#### Advanced



##### V- Moiré

Corrects for on-screen moiré pattern.  
— and + clear Vertical Moiré



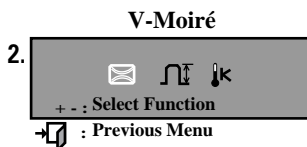
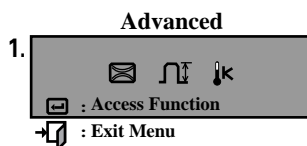
##### Video Input Level

Selects the video signal level  
— Select 0.7 V  
+ Select 1.0 V



##### Color Temperature

— 9300k more blue  
+ 6500k more red





## Operation

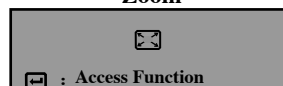
### Icon Monitor Function Control



#### Zoom

- Reduces view of display area
- + Enlarges view of display area

#### Zoom



#### Degauss

Removes color distortion caused by magnetic fields. Do not use more than once in 30 minutes.

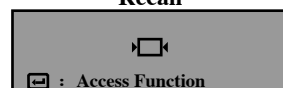
#### Degauss



#### Recall

- Returns monitor to original settings.
- No
  - + Yes

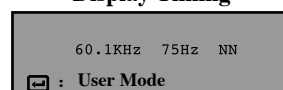
#### Recall



#### Display Timing


- Monitor display settings.
- Factory timing
  - + User timing

#### Display Timing

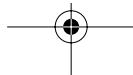


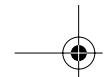
#### OSD Lock/Unlock

Allows you to secure the current control settings so that they cannot be inadvertently changed. You can unlock the OSD controls at any time by using the same procedure.

- Push and hold the Menu (  ) button for 10 seconds or more to Lock or to Unlock.

#### OSD Lock/Unlock





## Troubleshooting

---

Before calling for service, check the information in this section to see if you can solve the problem yourself. If you do need assistance, please call the phone number on the warranty card, the phone number on the back cover of this manual, or contact your dealer.

There is no screen image

- Check to see that both the monitor and the computer are plugged in and turned on.

"No Connection, Check Signal Cable" appears

- Check the signal cable connection between the computer and the monitor.

"Sync. Out of Range" appears

- The input signal frequency is over or under the synchronization range of the monitor, see "Specifications" on page 12.

The screen image is too light or too dark

- Adjust the brightness or contrast settings, see page 6.

The screen image is too large or too small

- Adjust the size settings, see H-size and V-Size on page 6.
- Adjust the Zoom setting, see page 9.

The colors are distorted with dark or shadowed areas

- Activate the degauss feature, see page 9.
- Adjust the color temperature, see page 8.

The power indicator light is blinking green

- The monitor is using its power management system, see "PowerSaver" on page 11.

You need the monitor driver software

- Download the driver from the internet at <http://www.samtron.com>



## PowerSaver

This monitor has a built-in power management system called PowerSaver. This system saves energy by switching your monitor into a low-power mode when it has not been used for a certain amount of time. The monitor automatically returns to normal operation when you move the computer's mouse or press a key on the keyboard. For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods. The PowerSaver system operates with a VESA DPMS compliant video card installed in your computer. Use a software utility installed on your computer to set up this feature.

State	Normal Operation	Power-off Mode (EPA/ENERGY 2000)
Power Indicator	Green	Green, Blinking (1 sec. interval)
Power Consumption	80 W (Maximum) 70 W (Nominal)	Less than 3 W

*NOTE: This monitor is EPA Energy Star® compliant and ENERGY 2000 compliant when used with a computer equipped with VESA DPMS functionality.*

## Display Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync. Polarity (H/V)
IBM, VGA2, 720 x 400	31.469	70.087	28.322	-/+
IBM, VGA3, 640 x 480	31.469	59.940	25.175	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 640 x 480	43.269	85.008	36.000	-/-
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 800 x 600	53.674	85.061	56.250	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-

## Specifications

Specifications	Models: Samtron 56E/56V
Picture Tube	<ul style="list-style-type: none"> <li>• 15" (38 cm) Full square type (35 cm Viewable)</li> <li>• 90° Deflection</li> <li>• Dot pitch: 0.24 mm (H) / 0.14 mm (V)</li> <li>• <b>56E:</b> Aluminized tri-color phosphor dot trio with black Matrix. Anti-doming invar shadow mask.</li> <li>• <b>56V:</b> Medium-short persistence phosphor</li> </ul>
Synchronization	<ul style="list-style-type: none"> <li>• Horizontal: 30 kHz to 55 kHz</li> <li>• Vertical: 50 Hz to 120 Hz</li> </ul>
Display Color	<ul style="list-style-type: none"> <li>• Unlimited</li> </ul>
Maximum Resolution	<ul style="list-style-type: none"> <li>• 1024 Dots    • 768 Lines</li> </ul>
Active Display	<ul style="list-style-type: none"> <li>• Horizontal: 10.5 ± 0.16 inch (267.0 ± 4 mm)</li> <li>• Vertical: 7.9 ± 0.16 inch (200.0 ± 4 mm)</li> </ul>
Input Signal, Terminated	<ul style="list-style-type: none"> <li>• Analog: 0.7 Vpp positive at 75 ohms</li> <li>• Separate Sync.: TTL level, positive or negative</li> </ul>
Maximum Pixel Clock	<ul style="list-style-type: none"> <li>• 65 MHz</li> </ul>
Power Supply	<ul style="list-style-type: none"> <li>• AC 100-240 V ± 10%, 60 Hz / 50Hz ± 3Hz</li> </ul>
Power Consumption	<ul style="list-style-type: none"> <li>• 80 W (maximum)</li> </ul>
Dimensions/Weight (WxDxH)	<ul style="list-style-type: none"> <li>• 14.0 x 14.9 x 14.5inch /25.4 lbs (356 x 379 x 369.5 /11.5 kg)</li> </ul>
Environmental Considerations	<ul style="list-style-type: none"> <li>• Operating temperature: 32°F to 104°F (0°C to 40°C)</li> <li>• Humidity: 10% to 80%</li> <li>• Storage temperature: -4°F to 113°F (-20°C to 45°C)</li> <li>• Humidity: 5% to 95%</li> </ul>

*Design and specifications are subject to change without notice.*

# Index

## A

Advanced, 8

## B

Brightness, 4, 6

Button , 5

Buttons,  /  (  /  ), 4

## C

Color temperature, 8

Connecting your monitor, 3

Contrast, 4, 6

## D

Degauss, 9

Direct access buttons, 4

Display modes, 11

Display timing, 9

Driver installation diskette, 3

## F

Front panel, 4

## G

Geometry, 7

## H

Horizontal position, 6

Horizontal size, 6

## L

Language, 8

## M

Menu button, 4

Monitor function control, 6, 7, 8, 9

Operation, 6, 7, 8, 9

On Screen Display, 5


OSD Lock/Unlock, 9

## P

Parallelogram, 7

Pinbalance, 7

Pincushion, 7

Power button , 4

Power cords, 3

Power port, 3

PowerSaver, 11

## R

Recall, 9

## S

Specifications, 12

## T

Trapezoid, 7

Troubleshooting, 10

## V

Vertical position, 6

Vertical size, 6

Video input level, 8

V-linearity, 7

V- Moiré, 8

## Y

Your new monitor, 4, 5

## Z

Zoom, 9

## O

## Regulatory Information

### FCC Information

#### User Instructions

The Federal Communications Commission Radio Frequency Interference Statement includes the following warning:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television receptions, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

#### User Information

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

If necessary, consult your dealer or an experienced radio/television technician for additional suggestions. You may find the booklet called How to Identify and Resolve Radio/TV Interference Problems helpful. This booklet was prepared by the Federal Communications Commission. It is available from the U.S. Government Printing Office, Washington, DC 20402, Stock Number 004-000-00345-4.

#### Warning

User must use shielded signal interface cables to maintain FCC compliance for the product.

#### Declaration of conformity for products Marked with FCC Logo

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this

device must accept any interference received, including interference that may cause undesired operation.

The party responsible for product compliance:

SAMSUNG ELECTRONICS CO., LTD

America QA Lab of Samsung

85 West Tasman Drive

San Jose, CA 95134 USA

Tel) 408-544-5124

Fax) 408-544-5191

Provided with this monitor is a detachable power supply cord with IEC320 style terminations. It may be suitable for connection to any UL Listed personal computer with similar configuration. Before making the connection, make sure the voltage rating of the computer convenience outlet is the same as the monitor and that the ampere rating of the computer convenience outlet is equal to or exceeds the monitor voltage rating.

For 120 Volt applications, use only UL Listed detachable power cord with NEMA configuration 5-15P type (parallel blades) plug cap. For 240 Volt applications use only UL Listed Detachable power supply cord with NEMA configuration 6-15P type (tandem blades) plug cap.

### IC Compliance Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations of ICES-003.

Cet appareil Numérique de classe B respecte toutes les exigences du Règlement ICES-003 sur les équipements produisant des interférences au Canada.

### MPR II Compliance

This monitor complies with SWEDAC(MPR II) recommendations for reduced electric and magnetic fields.

### European Notice

Products with the CE Marking comply with both the EMC Directive (89/336/EEC), (92/31/EEC), (93/68/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:

- EN55022:1998 – Radio Frequency Interference
- EN55024:1998 – Electromagnetic Immunity
- EN61000-3-2:1995 + A1 + A2 – Power Line Harmonics
- EN61000-3-3:1995 – Voltage Fluctuations
- EN60950 – Product Safety.





**SAMTRON SEOUL**

15TH FL, JOONGANG DAILY NEWS BLDG. 7, SOONHWA-DONG, CHUNG-KU,  
SEOUL, KOREA, 100-759  
Tel : (82-2) 727-3114

**SAMTRON U.S.A.**

SAMSUNG ELECTRONICS AMERICA (SEA)  
ONE SAMSUNG PLACE LEDGEWOOD NJ 07852  
Tel : 1-800-SAMTRON (726-8766)

**SAMTRON CANADA**

Samsung Electronics Canada Inc. 7037 Financial Drive  
Mississauga, Ontario L5N 6R3  
Tel. : 1-800-726-7864 Fax : 905-542-1199

**SAMTRON EUROPE**

Samsung Electronics GmbH  
Samsung-Haus, Am Kronberger Hang 6  
65824 Schwalbach/Ts., Germany  
Tel. 49 (0180) 5121213 \*  
Fax. 49 (0180) 5121214 \*  
\*DM 0,24/Min.

**SAMTRON TOKYO**

17TH, HAMACHO CENTER BLDG. 2-31-1, NIHONBASHI-HAMACHO,  
CHOU-KU, TOKYO 103, JAPAN  
Tel : (81-3) 5641-9860 Fax : (81-3) 5641-9861

**SAMTRON SWEDEN**

SAMSUNG ELECTRONICS SVENSKA, AB  
BOX 713, S- 194 27 UPPLANDS VASBY  
Tel : 468-590-966-00 Fax : 468-590-966-50

**SAMTRON MEXICO**

SAMSUNG ELECTRONICS MEXICO, S.A. DE C. V. Mina No. 200,  
ESQ. GAVILANCOL. GUADALUPE DEL MORAL IZTAPALAPA,  
MEXICO, D.F. C.P. 09300  
Tel. : (525) 686-0800 Fax : (525) 686-5094

IMPORTADO POR: SAMSUNG ELECTRONICS MEXICO S.A. DE C.V.  
SATURNO 44 COL. NVA. INDUSTRIAL VALLEJO  
DEL. GUSTAVO A. MADERO C.P. 07700  
MEXICO D.F. TEL. 5747-5100  
RFC: SEM950215S98  
EXPORTADO POR: SAMSUNG ELECTRONICS CO., LTD.  
JOONG-ANG DAILY NEWS BLDG.  
7 SOON-WHA-DONG CHUNG-KU,  
C.P.O BOX 2775, 1144 SEOUL, KOREA



"As an ENERGY STAR® Partner, SAMSUNG has  
determined that this product meets the ENERGY  
STAR® guidelines for energy efficiency."

P/N: BH68-00408B-05



Printed on the recyclable paper